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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,310	03/26/2004	Jeffrey J. Berkley	660119.401	9663

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EXAMINER

EISEN, ALEXANDER

ART UNIT PAPER NUMBER

2629

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/811,310

Applicant(s)

BERKLEY ET AL.

Examiner

Alexander Eisen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-28 and 34-39 is/are allowed.
- 6) ☒ Claim(s) 1,3,5,6,11,29 and 31 is/are rejected.
- 7) ☒ Claim(s) 2,4,7-10,30,32 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/17/05.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 5, 6, 11, 29 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamma, US 5,248,960.

With respect to claims 1, 29 and 31 Hamma discloses a haptic interface device 20 to provide haptic interaction to a user manipulating a tool, the haptic interface device comprising an attachment point (cable 24 at a pointer 25), a first cable 24 having a first and a second end, the first end coupled to the attachment point; a first tool translation effector device (assembly in housing 21) having coupled thereto the second end of the first cable (to a spool 45), the first tool translation effector device including controlling means for controlling the first cable such that, as the attachment point moves, the first cable is retracted or paid out accordingly by the first tool translation effector device, metering means (encoder 58; col. 9, lines 20-35) for metering the first cable as it is retracted and paid out; and establishing means for establishing, during an initialization procedure, a distance between the first tool translation effector device and the attachment point.

With respect to claims 3 and 6, Hamma teaches establishing means (col. 10, lines 28-42), which can calibrate the device from time to time.

As to claim 5 Hamma further discloses a sensor (encoding wheels 38, 58 and photo

sensors 40, 41, 60 and 61).

As claim 11, the controlling means include tensioning means (spring; col. 7, ll. 47-56).

Allowable Subject Matter

3. Claims 2, 4, 7-10, 30 and 32-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: none of the prior art does not teach or fairly suggest a haptic device for operation by a user, comprising a user interface tool configured to be manipulated by the user and moved within a volume of space, a first, a second, a third, and a fourth tool translation effector device, each coupled to a spool structure in positions such the first, second, third, and fourth tool translation effector devices define between them a tetrahedron within the volume of space, each of the tool translation effector devices including a respective spool and a respective encoder configured to provide a signal corresponding to rotation of the respective spool; first, second, third, and fourth cables each having a respective first and a respective second end, the first end of each of the first, second, third, and fourth cables coupled to the user interface tool and the second end of each of the first, second, third, and fourth cables wound and unwound on the spool of a respective one of the tool translation effector devices, and a first sensor configured to detect rotation of the user interface tool around an axis.

5. Claims 12-28 and 34-39 are allowed.

6. The following is an examiner's statement of reasons for allowance: none of the prior art has been found to suggest a modification of, or a combination with, the cited prior art so as to

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arrive to a combination of the independent claims 34 and 38; namely, a method, comprising applying tension to a cable having a first end and a second ends, the first end of the cable coupled to a tool and the second end of the cable coupled to an anchor point; as the tool is moved closer to the anchor point, winding the cable onto a spool; as the tool is moved away from the anchor point unwinding the cable from the spool; tracking a distance of the tool from the anchor point by counting fractional rotations of the spool as the cable is wound and unwound therefrom; and compensating for changes in effective diameter of the spool as the effective diameter changes in response to the cable being wound and unwound therefrom; or a method, comprising applying tension to each of four cables, each cable having a first end coupled to a tool and having a second end coupled to a respective vertex of a tetrahedron such that, as the tool is moved closer to any of the vertices the respective cables are drawn in at the respective vertices, and as the tool is moved away from any of the vertices the respective cables are fed out from the respective vertices; measuring a length of cable drawn in or fed out at each of the vertices; and measuring rotation of the tool about an axis by receiving a signal from a sensor operatively coupled to the tool.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Eisen whose telephone number is (571) 272-7687. The examiner can normally be reached on M-F (9:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alexander Eisen
Primary Examiner
Art Unit 2629

5 June 2006